**IT Applications Unit 3, AOS 1, Online Communities**

Complete the following, from pgs, 14-18: **Network communication standards**

**Networks are classified according to below and we will study the following:**

1. **Network Categories: LAN, WAN**
2. **Network Architecture, client-server; peer-to-peer; internet peer-to-peer; intranet**
3. **Network communication standards**
4. **Network hardware and software**
5. **Transmission media**
6. **Network security**

**Network communication standards**

1. Why are network standards required?

Network standards have been established to overcome the problems of incompatibility on a network and to ensure that hardware and software components can be integrated into any network.

1. What is a protocol?

A protocol is a standard that defines how two computers or devices on a network transmit data.

1. What is the OSI?

OSI is the open systems interconnection. It’s a standard for network communications that defines a model for using protocols in seven layers.

**Ethernet**

1. Describe the nature of Ethernet.

Ethernet is network standard that describes communication over a single cable shared by all devices on the network.

1. What are frames?

Frames are the short messages communicate between nodes in Ethernet.

1. Identify the 4 components of all Ethernet frames.

Destination, source address, data, parity check.

1. Fig. 1-9 on p 17 lists the Ethernet type, cable type, maximum length and transfer rate for Ethernet transmissions. The College typically uses 100BaseTX, Cat 5 or10Gbase-T. What are their respective maximum lengths and transfer rates?

Their maximum lengths is 85m and maximum transfer rates is 100Mbps.

**TCP/IP**

1. Describe the nature of TCP/IP.

TCP/IP is the most common method of packaging data for network transmission.

1. TCP/IP uses smaller packets than other protocols. Why is this an advantage on the internet?

There are usually many different pathways from the originating device to the destination device and the packets do not necessarily all travel the same path. Smaller packets give many more options to the network management software to enable load balancing.

**802.11 wireless standard**

**1** What does this standard do?

The 802.11 standard defines how two computers or devices can communicate using radio waves.

2 What is a Wi-Fi network?

Wi – Fi networks allow computers that are up to 50 metres apart to be connected without the need for wires.

3 Different wireless standards transmit at different frequencies. What is the advantage of the newer 802.11n standard?

It’s fast and more security.